Remarks

Claims 1-23 are currently pending. Claims 1, 14, and 20 are currently amended. These amendments are supported throughout the specification, in particular at pages 5-11.

The following remarks are in response to the Office Action mailed March 31, 2009.

Claim Rejections – 35 U.S.C. § 112

Claim 19 stands rejected under 35 U.S.C. § 112 as indefinite, on the ground that the phrase "evidence in market data of block selling " is unclear. Claim 19 has been amended to clarify that "evidence in market data of block selling interest" means "market data indicating block selling interest." This clarification is believed sufficient to overcome the instant rejection.

Claim Rejections – 35 U.S.C. § 101

Claims 1-19 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter, on the ground that the claims are not sufficiently tied to a particular machine or apparatus.

While Applicant finds the grounds for rejection somewhat confusing (page 4 seems to concede that claims 1 and 14 have the requisite machine recitation), independent claims 1 and 14 have been amended to order to further emphasize that the steps are performed by one or more computer processors.[1]

These amendments are believed sufficient to overcome the instant rejections of claims 1-19.

Claim Rejections – 35 U.S.C. § 103

Claims 1-23 stand rejected under 35 U.S.C. § 103 as unpatentable over Cushing (U.S. Pat. No. 7,162,447) in view of Huttenlocher (U.S. Pat. App. Pub. No. 2003/0093343) and in even further view of Madden ("Structural Changes in Trading Stocks," J. Portfolio Management, Fall 1993). These rejections are respectfully traversed, for the reasons provided below.

First, the Patent Office appears to misapprehend the teachings of Cushing. The price discovery algorithm of Cushing is used to identify "a price 201 for a given security at which the

[1] Applicant reserves the right to rescind these amendments in the event that the U.S. Supreme Court disagrees with the recently-created *Bilski* test for patentable subject matter.

volume of shares traded will be *maximized.*" Cushing, column 6, lines 49-51. In contrast, the invention of claim 1 seeks to *minimize* the difference between an execution price and a reference price. Also, claim 1 has been amended to specify that the execution price is different from the reference price (i.e., the difference is not zero).

Second, consider an example. Suppose the National Market midpoint is the reference price of claim 1, and that the midpoint is $3.00/share. Now suppose a Buyer places a limit bid order for 100 shares of a security, seeking to buy at $3.40 per share or lower, and a Seller places a limit offer order to sell 10,000 shares, at $3.30 per share or higher. Since these two orders cross, they should be matched and executed – but at what price? In the invention of claim 1, the price that is both within the overlap of the orders (the overlap is the range from $3.30 to $3.40) and closest to the reference price ($3.00) is $3.30. Therefore, the trade is executed at $3.30 per share.

It is Applicant's understanding that in the above example, the Patent Office would understand the National Market midpoint to be the "market price" or the "reference price." Clearly, the reference price is different from the execution price.

Now, in Cushing's system, limit orders are "unpriced" orders. In the above example, in Cushing's system, the execution price could have several different values, depending on the market. (1) If there are sufficient priced orders to determine a "discovered price," the orders in the example would be executed at the discovered price, which as explained above is the price that maximizes the volume of shares traded – and has no connection with a reference price. See Cushing, column 9, lines 54-58. (2) If no share maximizing price is discovered, then a reference price may be used. This reference price is "used to execute cross orders and unpriced orders" (that is, orders such as those in the above example). Critical to keep in mind is that Cushing requires such orders to be *executed at the reference price.*

Moreover, Cushing executes only orders that "are at least as aggressive . . . as the . . . reference price." See Cushing, column 11, lines 3-7. That is, Cushing requires "bid orders having a price greater than or equal to the discovered [or reference] price, and offer orders having a price less than or equal to the discovered [or reference] price." Cushing, column 11, lines 4-8.

Given this understanding of Cushing, it clear that if, as the Patent Office asserts, the reference price ("market price") of Cushing is the same as the reference price of claim 1, then in

the above example *Cushing's system would not execute the orders*: the bid order (i.e., the offer to buy) is greater than or equal to the reference price, but the offer order (the offer to sell) is *not* less than or equal to the reference price.

Moreover, even if Cushing's system were somehow modified so that the orders were executed, the execution price would be $3.00 per share – not the $3.30 per share execution price that would be the result if the invention of claim 1 were used. Clearly, then, the "reference price" of Cushing is different from the reference price of claim 1, and the "reference price" limitation of claim 1 (i.e., that the reference price is different from the execution price) is not taught by Cushing.

Accordingly, Applicant respectfully submits that Cushing neither teaches nor suggests the limitation in claim 1 of "executing a trade comprising said first order and said second order at a trade execution price, wherein said trade execution price complies with said first price limit and said second price limit, and wherein said trade execution price is calculated to minimize a difference between said reference price and said trade execution price, and wherein said execution price is different from said reference price."

Huttenlocher teaches trade execution at a midpoint. To the extent that the midpoint is considered a "reference price," Huttenlocher teaches execution at the reference price – the opposite of what claim 1 requires.

Madden is cited merely for teaching "a large block system where notification can be made to potential customers."

Thus, none of the cited references teaches the claim 1 limitation (essentially shared by independent claims 14 and 20) of:

> executing with a second processor a trade comprising said first order and said second order at a trade execution price, wherein said trade execution price complies with said first price limit and said second price limit, and wherein said trade execution price is calculated to minimize a difference between said reference price and said trade execution price,
>
> wherein said first and second processors may be the same processor, and wherein , and wherein said execution price is different from said reference price.

In view of the foregoing, Applicant respectfully submits that independent claim 1 is patentable over Cushing, Huttenlocher, and Madden, individually and in combination. For the reasons provided above, independent claims 14 and 20 also are patentable over the cited

references. And since the remaining claims depend from either claim 1, 14, or 20, all of those claims are likewise patentable.

In view of the foregoing, Applicant respectfully submits that all pending claims are allowable. Accordingly, reconsideration and allowance of these claims are respectfully requested.

No fee is believed due in connection with this Reply other than the extension of time fee. If any other fee is due, please charge that fee to Cowan, Liebowitz & Latman's Deposit Account No. 03-3415.

Respectfully submitted,

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